1154-11-534    **Maria Fox** (`mariafox@uoregon.edu`), **Vlad Matei** (`vmatei@uci.edu`) and **Soumya Sankar***
(`ssankar3@wisc.edu`). *Hecke Orbits and Unlikely Intersections.* Preliminary report.

Let $X(1)$ denote the modular curve over the finite field $\mathbb{F}_p$. The Hecke orbit of a point $(j(E_1), j(E_2) \cdots j(E_n)) \in X(1)^n(\overline{\mathbb{F}_p})$ is the set of $(j(E_1'), \cdots j(E_n')) \in X(1)^n(\overline{\mathbb{F}_p})$ such that $E_i$ is isogenous to $E_i'$ for each $i$. One can ask when a subvariety $V$ of $X(1)^n_{\mathbb{F}_p}$ satisfies the condition that $V(\overline{\mathbb{F}_p})$ intersects *every* ordinary Hecke orbit. We provide a heuristic for the expected size of the intersection of $V(\overline{\mathbb{F}_p})$ and a general ordinary Hecke orbit. (Received September 06, 2019)